

INSTITUTE for form 1449A/PTO

PTO/SB/08a (08-03)

Approved for use through 07/31/2008. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**(Use as many sheets as necessary)**

Sheet	1	of	2
-------	---	----	---

**Complete if Known**

Application Number	10/827,189
Filing Date	April 19, 2004
First Named Inventor	James F. Stevens, et al.
Art Unit	1793
Examiner Name	Langel
Attorney Docket Number	X-0137

## U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

[illegible]

**Examiner  
Signature**

Date Considered

4-9-08

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

***If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.***

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2

of 2

**Complete if Known**

Application Number	10/827,189
Filing Date	April 19, 2004
First Named Inventor	James F. Stevens, et al.
Art Unit	1793
Examiner Name	Wayne R. Longel
Attorney Docket Number	X-0137

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
WAL	CA	Alpay et al., "Combined Reaction and Separation in Pressure Swing Processes," <i>Chemical Engineering Science</i> , Vol. 49, No. 24B, pp 5845-5864, (no date)	
WAL	CB	Berty et al., "Beat the equilibrium," <i>Chemtech</i> , October 1990, pp 624-629.	
WAL	CC	Carvill et al., "Sorption-enhanced reaction process," <i>AIChE Journal</i> , Oct. 1996, Vol. 42, No. 10, pp 2765-2772.	
WAL	CD	Han et al., "Simultaneous shift reaction and carbon dioxide separation for the direct production of hydrogen," <i>Chemical Engineering Science</i> , Vol. 49, No. 24B, pp 5875-5883 (1995), (no date)	
WAL	CE	Hufton et al., "Sorption-enhanced reaction process for hydrogen production," <i>AIChE Journal</i> , Feb. 1999, Vol. 45, No. 2, pp 248-256.	
WAL	CF	Kuramoto et al., "Repetitive carbonation-calcination reactions of Ca-based sorbents for efficient CO <sub>2</sub> sorption at elevated temperatures," <i>Ind. Eng. Chem. Res.</i> , 2003, Vol. 42, pp 975-981. (no date) month	
WAL	CG	Lin et al., "Hydrogen production from hydrocarbon by integration of water-carbon reaction and carbon dioxide removal (HyPr-RING Method)," <i>Energy and Fuels</i> , 2001, Vol. 15, pp 339-343, (no month)	
WAL	CH	Rizeq et al., "Fuel-flexible gasification-combustion technology for production of H <sub>2</sub> and sequestration-ready CO <sub>2</sub> ," Annual Technical Progress Report 2002, October 2002, DOE Award No. DE-FC26-00FT40974, General Electric and Environmental Research Corporation.	
WAL	CI	Silaban et al., "High temperature capture of carbon dioxide: characteristics of the reversible reaction between CaO(s) and CO <sub>2</sub> (g)," <i>Chem. Eng. Comm.</i> , 1995, Vol. 137, pp 177-190, (no month)	

Examiner Signature	Wayne R. Longel	Date Considered	4-9-08
--------------------	-----------------	-----------------	--------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.